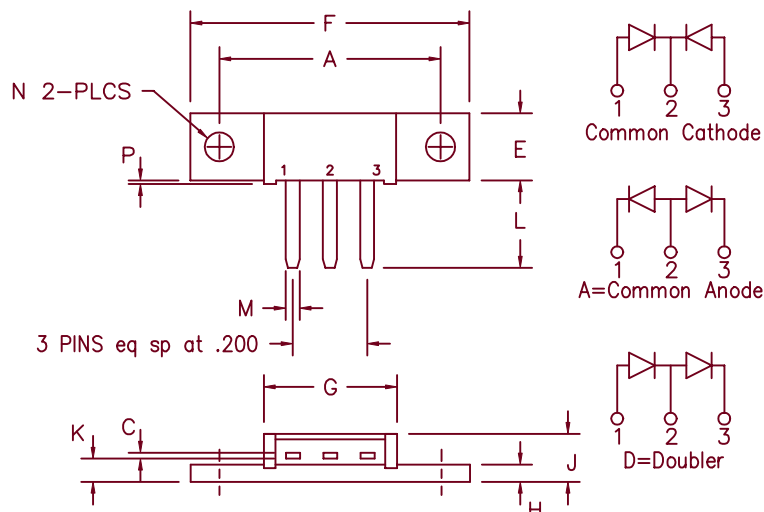


# Ultrafast Recovery Modules UFT70, 71 & 72



| Dim. | Inches  |         | Millimeter |         | Notes |
|------|---------|---------|------------|---------|-------|
|      | Minimum | Maximum | Minimum    | Maximum |       |
| A    | 1.180   | 1.195   | 29.97      | 30.35   |       |
| C    | .027    | .037    | 0.69       | 0.94    |       |
| E    | .350    | .370    | 8.89       | 9.40    |       |
| F    | 1.490   | 1.510   | 37.85      | 38.35   |       |
| G    | .695    | .715    | 17.65      | 18.16   |       |
| H    | .088    | .098    | 2.24       | 2.49    |       |
| J    | .240    | .260    | 6.10       | 6.60    |       |
| K    | .115    | .135    | 2.92       | 3.43    |       |
| L    | .460    | .480    | 11.68      | 12.19   |       |
| M    | .065    | .085    | 1.65       | 2.16    |       |
| N    | .151    | .161    | 3.84       | 4.09    | Dia.  |
| P    | .015    | .025    | 0.38       | 0.64    |       |

| Microsemi<br>Catalog Number | Working Peak<br>Reverse Voltage | Repetitive Peak<br>Reverse Voltage |
|-----------------------------|---------------------------------|------------------------------------|
| UFT7010*                    | 100V                            | 100V                               |
| UFT7015*                    | 150V                            | 150V                               |
| UFT7020* UFT7120*           | 200V                            | 200V                               |
| UFT7130*                    | 300V                            | 300V                               |
| UFT7140*                    | 400V                            | 400V                               |
| UFT7250* UFT7150*           | 500V                            | 500V                               |
| UFT7260*                    | 600V                            | 600V                               |
| UFT7270*                    | 700V                            | 700V                               |
| UFT7280*                    | 800V                            | 800V                               |

\*Add the Suffix A for Common Anode, D for Doubler

- Ultra Fast Recovery
- 175°C Junction temperature
- $V_{RRM}$  100 to 800 Volts
- 2 X 35 Amp current rating

## Electrical Characteristics

|                                      | UFT70          | UFT71 | UFT72 |                                        |
|--------------------------------------|----------------|-------|-------|----------------------------------------|
| Average forward current per pkg      | $I_F(AV)$ 70A  | 70A   | 70A   | Square Wave                            |
| Average forward current per leg      | $I_F(AV)$ 35A  | 35A   | 35A   | Square Wave                            |
| Case Temperature                     | $T_C$ 148°C    | 142°C | 138°C | $R_{\theta JC} = 1.0^\circ C/W$        |
| Maximum surge current per leg        | $I_{FSM}$ 700A | 600A  | 500A  | 8.3 ms, half sine, $T_J = 175^\circ C$ |
| Max peak forward voltage per leg     | $V_{FM}$ .95V  | 1.20V | 1.35V | $I_{FM} = 35A; T_J = 25^\circ C^*$     |
| Max reverse recovery time per leg    | $t_{rr}$ 50ns  | 60ns  | 75ns  | $1/2A, 1A, 1/4A, T_J = 25^\circ C$     |
| Max peak reverse current per leg     | $I_{RM}$ —     | 3.0mA | —     | $V_{RRM}, T_J = 125^\circ C$           |
| Max peak reverse current per leg     | $I_{RM}$ —     | 25μA  | —     | $V_{RRM}, T_J = 25^\circ C$            |
| Typical junction capacitance per leg | $C_J$ 300pF    | 120pF | 115pF | $V_R = 10V, T_J = 25^\circ C$          |

\*Pulse test: Pulse width 300 μsec, Duty cycle 2%

## Thermal and Mechanical Characteristics

|                                      |                 |                               |
|--------------------------------------|-----------------|-------------------------------|
| Storage temp range                   | $T_{STG}$       | -55°C to 175°C                |
| Operating junction temp range        | $T_J$           | -55°C to 175°C                |
| Max thermal resistance per leg       | $R_{\theta JC}$ | 1.0°C/W Junction to case      |
| Max thermal resistance per pkg       | $R_{\theta JC}$ | 0.5°C/W Junction to case      |
| Typical thermal resistance (greased) | $R_{\theta CS}$ | 0.3°C/W Case to sink          |
| Mounting Torque                      |                 | 10 inch pounds maximum        |
| Weight                               |                 | 0.3 ounce (8.4 grams) typical |

# UFT70

Figure 1  
Typical Forward Characteristics – Per Leg

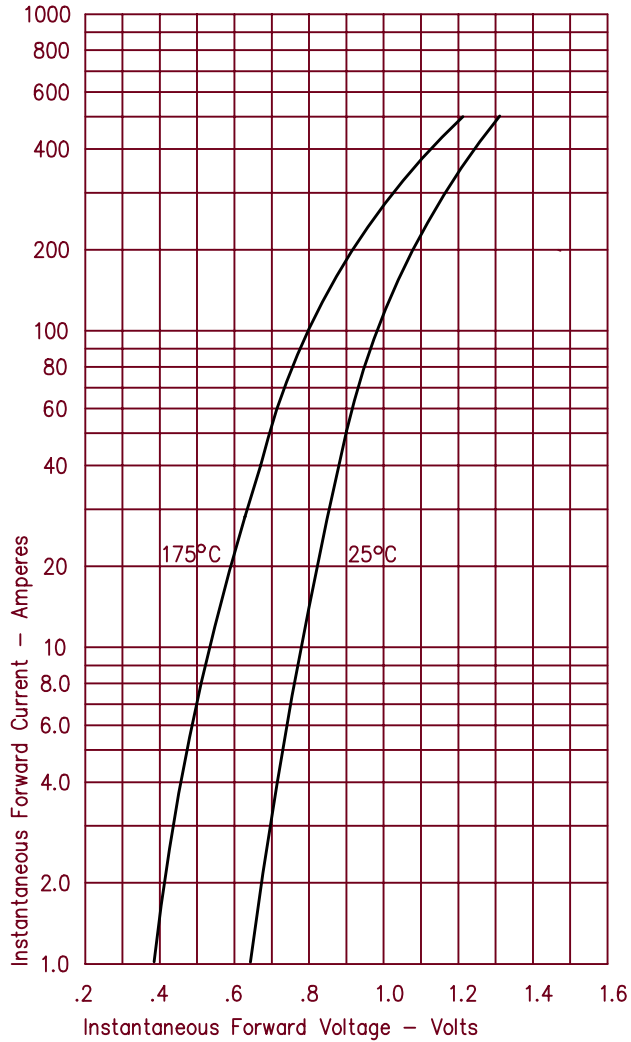


Figure 3  
Typical Junction Capacitance – Per Leg

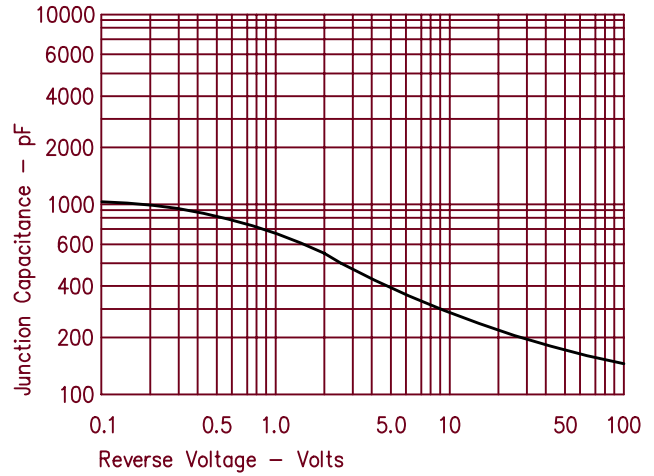


Figure 4  
Forward Current Derating – Per Leg

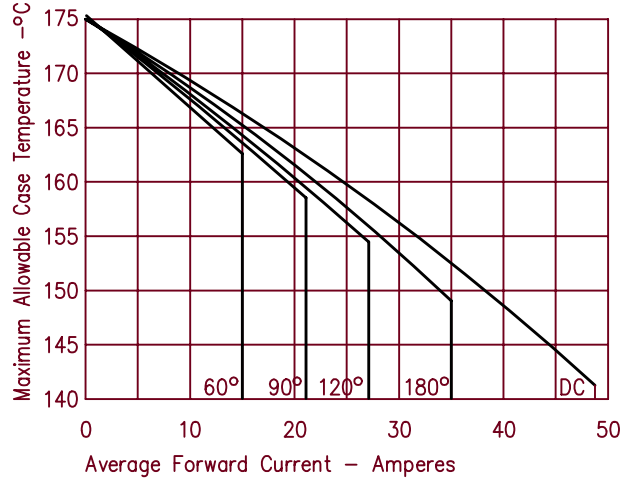


Figure 2  
Typical Reverse Characteristics – Per Leg

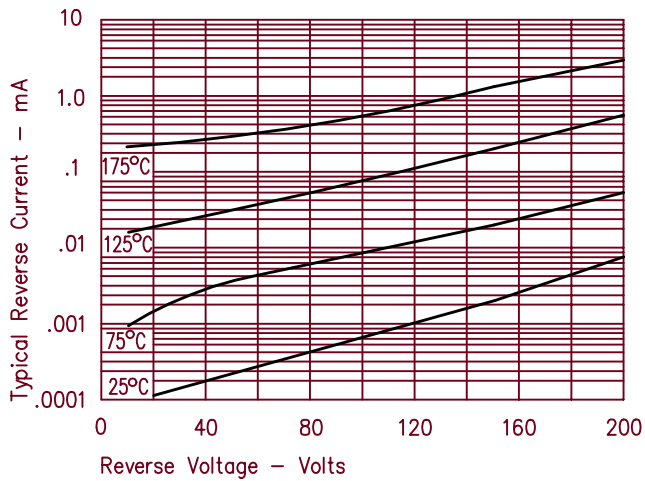
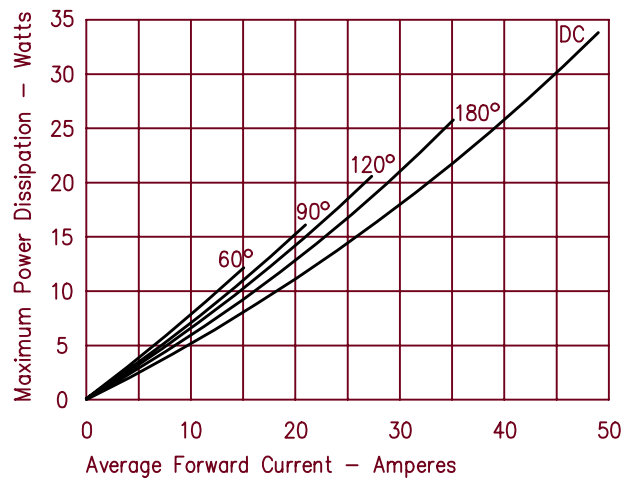


Figure 5  
Maximum Forward Power Dissipation – Per Leg



# UFT71

Figure 1  
Typical Forward Characteristics – Per Leg



Figure 3  
Typical Junction Capacitance – Per Leg

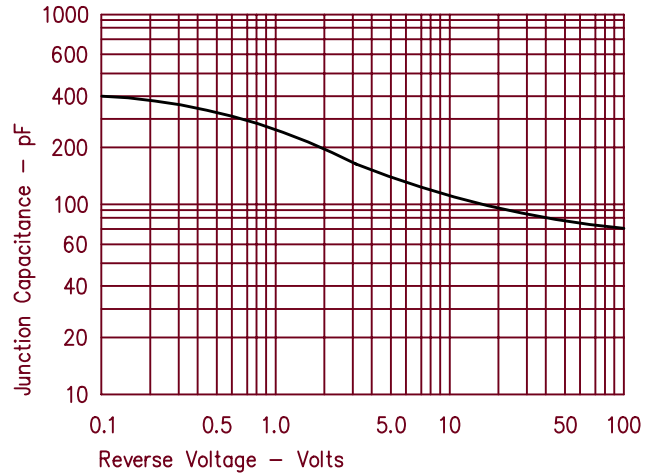


Figure 4  
Forward Current Derating – Per Leg

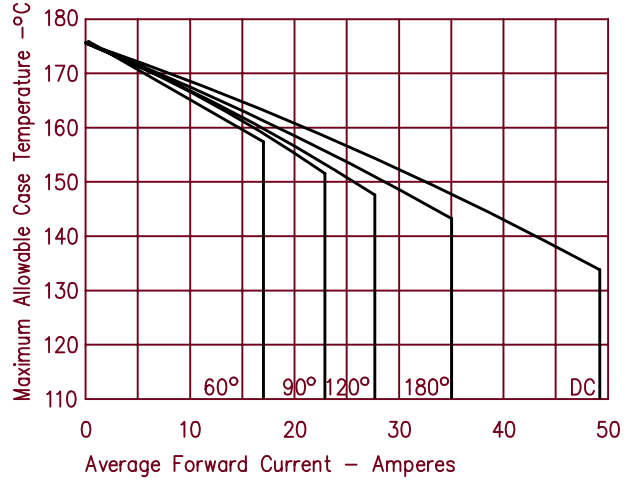


Figure 2  
Typical Reverse Characteristics – Per Leg

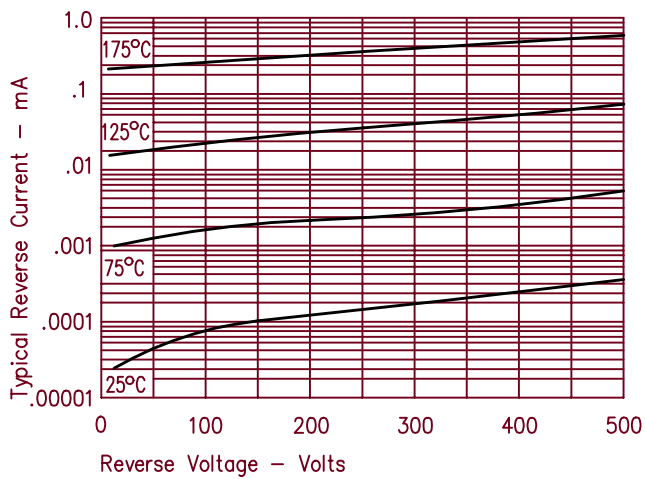
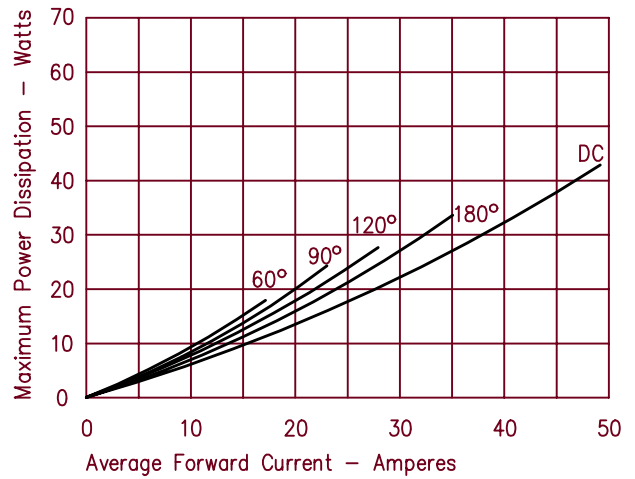


Figure 5  
Maximum Forward Power Dissipation – Per Leg



# UFT72

Figure 1  
Typical Forward Characteristics – Per Leg



Figure 3  
Typical Junction Capacitance – Per Leg

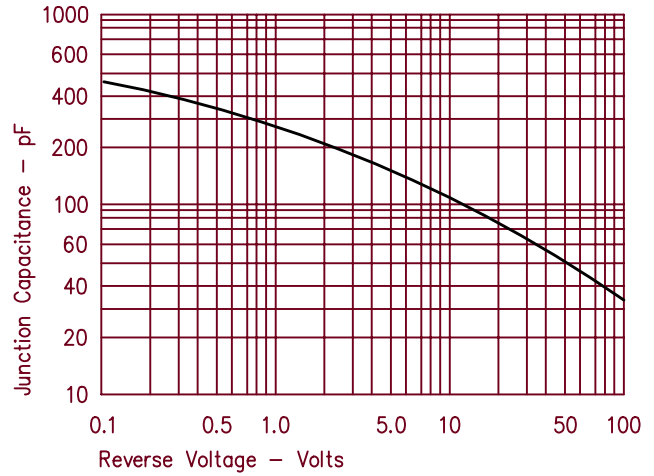


Figure 4  
Forward Current Derating – Per Leg

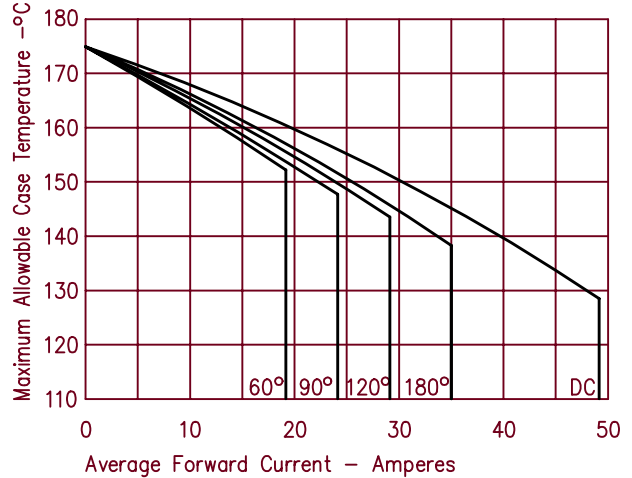


Figure 2  
Typical Reverse Characteristics – Per Leg

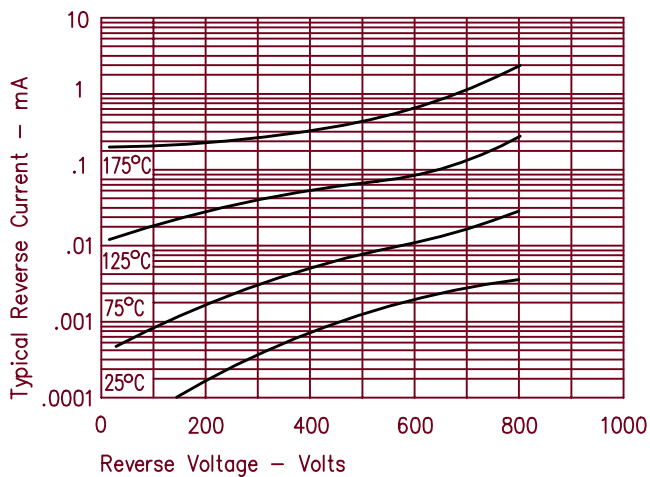


Figure 5  
Maximum Forward Power Dissipation – Per Leg

